## Q2

* 19. Write C++ statements that accomplish the following
  + Output the newline character.

```C++

#include <iostream>

int main(){

std::cout << “\n”;

}

```

* + Output the tab character.

```C++

#include <iostream>

int main(){

std::cout << “\t”;

return 0;

}

```

* + Output the double quotation mark

```C++

#include <iostream>

int main(){

std::cout << “ \” ”;

return 0;

}

```

## Q3

## Correct the following codes to produce the required outputs

|  |  |
| --- | --- |
| C++ Code with Error | C++ Code after Correct |
| #include {iostream}  int Main[]  }  cout >> Hello, World!  return 0;  { | Welcome in the first C++ App |
| #include <iostream>  using namespace std;  int main()  {  cout << “The Devloper: Ruqaih ”;  cout << “ Hussein”;  cout << “ Salman”;  } | The Devloper: Ruqaih  -----------  Hussein  ------------  Salman  --------- |

* First one

```C++

#include <iostream>

int main(){

std::cout << “Welcome in the first C++ App”;

return 0;

}

```

* Second

```C++

#include <iostream>

using namespace std;

int main(){

cout << “The Devloper: Ruqaih” << endl;

cout << “ ----------” << endl;

cout << “ Hussein” << endl;

cout << “ -----------” << endl;

cout << “ Salman” << endl;

cout << “ ------------” << endl;

return 0;

}

```

## Q4

## Do these Algorithms Exercises with Flowchart to:

* Write an algorithm to calculate the product of two numbers given by user
  1. Start
  2. Read x, y
  3. Calc x times y and store it in z
  4. Print z
  5. End

read x, y

z = x \* y

print z

* Draw a flowchart for steps required to play music stored in a CD

read CD

print CD

process CD

print cost

* Draw a flowchart in Microsoft Word for the steps required to find the cost of 24 pens when the cost of one pen is 12

cost = 24 \* 12

* Draw a flowchart of the next algorithm to find the area of the perimeter of a circle
  1. Start
  2. Input Radius of Circle say R
  3. Area = 22.0 / 7.0 \* R \* R
  4. Perimeter = 2 \* 22.0 / 7.0 \* R
  5. Display Area, Perimeter
  6. End

read R

Area = 22.0 / 7.0 \* R \* R

Perimeter = 2 \* 22.0 / 7.0 \* R

print Area, Perimeter

### Q5

### Do these Programming Exercises with C++ language to:

* Write C++ program that print the following output

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\* Programming Assignment 1 \*

\* Computer Programminf l \*

\* Author: ??? \*

\* Due Date: Thursday, Jan, 24 \*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

``` C++

#include <iostream>

using std::cout;

using std::endl;

int main(){

cout << “\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*” << endl;

cout << “\* Programming Assignment 1 \*” << endl;

cout << “\* Computer Programming l \*” << endl;

cout << “\* Author: \?\?\?” << endl;

cout << “\* Due Date: Thursday, Jan, 24 \*” << endl;

return 0;

}

```

* Rewrite the previous program, subsititute ??? with your own name and then adjust the positions and the number of stars to produce a rectangle

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\* Programming Assignment 1 \*

\* Computer Programming I \*

\* Author: Eng : Ruqaih Salma \*

\* Due Date: Thursday, Jan, 24 \*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

#include <iostream>

using std::cout;

using std::endl;

*int* main() {

cout << "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*" << endl;

cout << "\* Programming Assignment 1 \*" << endl;

cout << "\* Computer Programming I \*" << endl;

cout << "\* Author: Abdullah \*" << endl;

cout << "\* Due Date: Thursday, Jan, 24 \*" << endl;

cout << "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*" << endl;

return 0;

}

* Write C++ statements that print the following
  + Hello World!
  + “Hello, World”.
  + “Hello, World” with sequential output fo serval strings
  + “Hello, World” with sequential output fo serval characters

#include <iostream>

using std::cout;

using std::endl;

*int* main() {

cout << "Hello World!" << endl;

cout << "\"Hello, World\"." << endl;

cout << "\"Hello, World\"" << endl;

cout << "\"Hello, World\"" << endl;

return 0;

}

* Write C++ program to print small C.V like this

-------------------------------------------

Name: Ruqaih Hussein Salman

=========================

Age: 28

=========================

Email: ruqaih\_salman@gmail.com

…………………………………….

#include <iostream>

using std::cout;

using std::endl;

*int* main() {

cout << "------------------------------------" << endl; cout << "Name: Abdullah Murtada Al-Banna " << endl;

cout << "====================================" << endl;

cout << "Age: 21 " << endl;

cout << "====================================" << endl;

cout << "Email: abdullah@albannatech.com " << endl;

cout << "...................................." << endl;

return 0;

}

* Write the following C++ program and then explain each line in the program using comments

#include <iostream>

using namespace std;

int main(){

cout << “welcome in the first program”;

return 0;

}

#include <iostream> *// imports the iostream lib (cout, cin)*

using *namespace* std; *// dumps the std:: whenever you want to use cout or cin*

*int* main() { *// main app entry*

cout << "welcome in the first program"; *// prints a string*

return 0; *// returns zero indicating the app succeed*

}

* Correct the mistakes in the following program then rewrite it with correct shape:

#include<iostraem>

void main[]

{

Cout >> “my name is Ali”

Cout << “The name is :” << Ahmed < \n << ;

Return 0;

}

#include <iostream>

using std::cout;

using std::endl;

*int* main() {

cout << "my name is Ali" << endl;

cout << "The name is: Ahmed" << "\n";

return 0;

}

* Write progrm to print B letter then write C++ program to print your first letter

#include <iostream>

using std::cout;

using std::endl;

*int* main() {

cout << "\*\*\*\*\*\*\*" << endl;

cout << "\*\*\*\*\*\*\*" << endl;

cout << "\*\* \*\* " << endl;

cout << "\*\* \* " << endl;

cout << "\*\*\*\*\* " << endl;

cout << "\*\*\*\*\*\* " << endl;

cout << "\*\* \* " << endl;

cout << "\*\* \*\* " << endl;

cout << "\*\*\*\*\*\*\*" << endl;

cout << "\*\*\*\*\*\*\*" << endl;

cout << endl << endl << endl;

cout << " \* " << endl;

cout << " \* \* " << endl;

cout << " \* \* " << endl;

cout << " \*\*\*\*\*\*\*\* " << endl;

cout << " \* \* " << endl;

cout << " \* \* " << endl;

cout << " \* \* " << endl;

cout << "\* \*" << endl;

return 0;

}

* Print this shape by using one cout statement

ppppppppp

p p

p p

p p

p p

JJ

J

J

J

JJJJJJJ

DDDDDDDDD

D D

D D

D D

DDDDD

#include <iostream>

using std::cout;

using std::endl;

*int* main() {

cout << "ppppppppppp" << endl

<< " p p" << endl

<< " p p" << endl

<< " p p " << endl

<< " JJ " << endl

<< " J " << endl

<< "J " << endl

<< " J " << endl

<< " JJJJJJJJJ " << endl

<< "DDDDDDDDDDD " << endl

<< "D D " << endl

<< "D D " << endl

<< " D D " << endl

<< " DDDDDDD " << endl;

return 0;

}

* Display the following checkboard pattern with eight cout statements and then display the same pattern with as few cout statements as possible.

\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*

#include <iostream>

using std::cout;

using std::endl;

*int* main() {

cout << "\*\*\*\*\*\*\*\*\*\*\*" << endl;

cout << "\*\*\*\*\*\*\*\*\*\*\*" << endl;

cout << "\*\*\*\*\*\*\*\*\*\*\*" << endl;

cout << "\*\*\*\*\*\*\*\*\*\*\*" << endl;

cout << "\*\*\*\*\*\*\*\*\*\*\*" << endl;

cout << "\*\*\*\*\*\*\*\*\*\*\*" << endl;

cout << "\*\*\*\*\*\*\*\*\*\*\*" << endl;

cout << "\*\*\*\*\*\*\*\*\*\*\*" << endl;

cout << endl << endl;

cout << "\*\*\*\*\*\*\*\*\*\*\*" << endl

<< "\*\*\*\*\*\*\*\*\*\*\*" << endl

<< "\*\*\*\*\*\*\*\*\*\*\*" << endl

<< "\*\*\*\*\*\*\*\*\*\*\*" << endl

<< "\*\*\*\*\*\*\*\*\*\*\*" << endl

<< "\*\*\*\*\*\*\*\*\*\*\*" << endl

<< "\*\*\*\*\*\*\*\*\*\*\*" << endl

<< "\*\*\*\*\*\*\*\*\*\*\*" << endl;

return 0;

}

* Write this program then demonstrate and discuss what happened

#include <iostreamusing

namespace std;

int main()

{

cout << “7 + 3 = “ << 7 + 3 << endl;

cout << “7 – 7 = “ << 7 – 3 << endl;

cout << “7 \* 7 = ” << 7 \* 3 << endl;

cout << “7 / 3 = ” << 7 / 3 << endl;

cout << “7.0 / 3.0 = ” << 7.0 / 3.0 << endl;

cout << “7 + 3 \* 5 = ” << 7 + 3 \* 5 << endl;

cout << “(7 + 3) \* 5 = ” << (7 + 3) \* 5 << endl;

return 0;

}

#include <iostream>

using *namespace* std;

*int* main() {

cout << "7 + 3 = " << 7 + 3 << endl; *// adds two numbers*

cout << "7 - 7 = " << 7 - 3 << endl; *// subtracts two numbers*

cout << "7 \* 7 = " << 7 \* 3 << endl; *// multiple two number*

cout << "7 / 3 = " << 7 / 3 << endl; *// divide two number*

cout << "7.0 / 3.0 = " << 7.0 / 3.0 << endl; *// divide two double numbers*

cout << "7 + 3 \* 5 = " << 7 + 3 \* 5 << endl; *// adds and multiple three numbers,*

*//it would multiple first the 3 and 5 and adds 7 to the result of that*

cout << "(7 + 3)\* 5 = " << (7 + 3) \* 5 << endl; *// forces the addition first*

return 0;

}

* Write a C++ program to print these shapes in a horizontal plane with the following output

\*\*\*\*\*\*\* \*\*\* \* \*

\* \* \* \* \*\*\* \* \*

\* \* \* \* \*\*\*\* \* \*

\* \* \* \* \* \* \*

\* \* \* \* \* \* \*

\* \* \* \* \* \* \*

\* \* \* \* \* \* \*

\* \* \* \* \* \* \*

\*\*\*\*\*\*\* \*\*\* \* \*

#include <iostream>

using std::cout;

using std::endl;

*int* main() {

cout << "\*\*\*\*\*\*\*\* \*\*\* \* \* " << endl;

cout << "\* \* \* \* \*\*\* \* \* " << endl;

cout << "\* \* \* \* \*\*\*\*\* \* \* " << endl;

cout << "\* \* \* \* \* \* \* " << endl;

cout << "\* \* \* \* \* \* \* " << endl;

cout << "\* \* \* \* \* \* \* " << endl;

cout << "\* \* \* \* \* \* \* " << endl;

cout << "\* \* \* \* \* \* \* " << endl;

cout << "\*\*\*\*\*\*\*\* \*\*\* \* \* " << endl;

return 0;

}

* Write C++ Program to print your name by using stars \* or #

#include <iostream>

using std::cout;

using std::endl;

int main() {

cout << " # # # " << endl;

cout << " # # # # " << endl;

cout << " # # # # # # " << endl;

cout << " ####### ##### ###### # # " << endl;

cout << " # # # # # # ####### " << endl;

cout << "# # ##### ###### #" << endl;

return 0;

}

* Write a C++ program to print a short letter to your travling friend

#include <iostream>

using std::cout;

using std::endl;

*int* main() {

cout << "I hope you get safe xD" << endl;

return 0;

}

* Write a C++ program to print your name with distances like the following

R U Q A I H

#include <iostream>

using std::cout;

using std::endl;

*int* main() {

cout << "A B D U L L A H" << endl;

return 0;

}

* Write a program that prints the numbers 1 to 4 on the same line with each pair of adjacent numbers separated by one space, write them using the following methods
  + Using one output statement with one stream insertion operator
  + Using one output statement with four stream insertion operators
  + Usinf four output statements

#include <iostream>

using std::cout;

using std::endl;

*int* main() {

*// 1*

cout << "1 2 3 4\n";

*// 2*

cout << "1 " << "2 " << "3 " << "4\n";

*// 3*

cout << "1 ";

cout << "2 ";

cout << "3 ";

cout << "4 \n";

return 0;

}

* Write a C++ program that print the following output

-----------------------------------------------------------------------------------------------------

| Num | Name | C++ | English | Arabic | Math | Sum | Avarage |

-----------------------------------------------------------------------------------------------------

| 1 | Ali | 99 | 98 | 99 | 96 | 392 | 98 |

------------------------------------------------------------------------------------------------------

| 2 | Kram | 88 | 87 | 90 | 70 | 335 | 83.75 |

------------------------------------------------------------------------------------------------------

| 3 | Ahmed | 90 | 67 | 99 | 92 | 392 | 87 |

------------------------------------------------------------------------------------------------------

#include <iostream>

using std::cout;

using std::endl;

*int* main() {

cout << "--------------------------------------------------------------------------------------------- " << endl;

cout << "| Num | Name | C++ | English | Arabic | Math | Sum | Avarage |" << endl;

cout << "--------------------------------------------------------------------------------------------- " << endl;

cout << "| 1 | Ali | 99 | 98 | 99 | 96 | 392 | 98 |" << endl;

cout << "--------------------------------------------------------------------------------------------- " << endl;

cout << "| 2 | Kram | 88 | 87 | 90 | 70 | 335 | 83.75 |" << endl;

cout << "--------------------------------------------------------------------------------------------- " << endl;

cout << "| 3 |Ahmed| 90 | 67 | 99 | 92 | 392 | 87 |" << endl;

cout << "--------------------------------------------------------------------------------------------- " << endl;

return 0;

}